

Quarterly Progress Report No. 8



Project Name	Lane City Reservoir Project
TWDB Contract	1400011761
Reporting Period	September 1, 2016 to November 30, 2016 (TWDB 1Q2017)
From:	John S. McLeod, P.E., Project Manager
To	Matthew Webb/TWDB
Date:	January 31, 2017

Summary

Construction of the Lane City Reservoir project is progressing well and is expected to be substantially complete September 8, 2018. Dry weather conditions during the period allowed contractor to make good progress in all areas of construction.

Construction of grant reimbursable items (river outfall, wave wall, and chimney drain) continue to progress well. A summary of work completed during the period is presented below:

- **River Outfall.** The term “River Outfall” is also synonymously termed “River Return System” in the TWDB Contract. River water levels remained high in early September but subsided allowing contractor to complete construction of the temporary cofferdam. Contractor initiated dewatering operations and began excavation within the cofferdam. Water intrusion into the cofferdam continues to be a challenge for the contractor.
- **Wave Wall.** Contractor continues to fabricate and stockpile wave wall segments. The fabrication operations is estimated to be approximately 26% complete. To date approximately 893 of the planned 3,445 segments have been fabricated or delivered to the site. Wave wall installation is scheduled to begin mid-2017.
- **Chimney Drain.** Contractor production of the chimney drain increased dramatically during the period. Initial rates were in the one-hundred lineal feet per day range but with continued improvements to the method, production rates increased to 1,000 – 1,500 l-f per day. To date the chimney drain is approximately 47% complete. This evolution will be an important conclusion presented in the Task 3 Construction report.

This status report will also accompany LCRA’s request for \$1,024,235 of reimbursable costs related to the construction of the river outfall facility, chimney drain, and fabrication of wave wall segments over the period September 2016 – November 2016. Note, this reimbursement also includes cost for the chimney drain for the period June 2016 – August 2016 that were not included in previous pay requests (see Table 4). Quarterly Report No. 8 is submitted at this time subsequent to coordinated discussions with TWDB.

1. Work Completed During the Quarter

Table 1 summarizes work activities and accomplishments made during the reporting period. Note: The “(P)” indicates a photograph of the item is presented at the end of the report.

**Table 1
Summary of Work Completed During Reporting Period**

Scope Item	Description
Task 1 - Regulatory Considerations	<ul style="list-style-type: none"> • None. Task is complete
Task 2 - Construction	<ul style="list-style-type: none"> • <u>River Outfall</u> <ul style="list-style-type: none"> ○ Installed permanent sheet piles along river bank. ○ Completed construction of temporary coffer dam. (P) ○ Completed installation of bank stabilization measures. (P) ○ Initiated excavation within the cofferdam. • <u>Chimney Drain/Embankment</u> <ul style="list-style-type: none"> ○ Installed approximately 261,471 lineal feet (l-f) of chimney filter. This is approximately 47% of the total 560,366 l-f of planned. (P) ○ Installed approximately 1,000-l-f of native sand to cap the top of the chimney drain. (P) • <u>Wave Wall</u> <ul style="list-style-type: none"> ○ Continue fabrication and delivery of completed wave wall segments. ○ An estimated 893 of the 3,445 wall segments have been completed. (P)
Task 3 - Post Construction Documentation and Lessons Learned	<ul style="list-style-type: none"> • <u>Report</u> <ul style="list-style-type: none"> ○ Continued to collect and catalog construction photographs of construction means and methods. ○ Updated the report table of contents. ○ Completed first draft of introduction.
Task 4 - Outreach and Public Communication	<ul style="list-style-type: none"> • Provided web content for TWDB public outreach • Received notice of acceptance for presentation at the Texas Water 2017 conference April 10 – 13th. Paper Title: “Can a Pump Station Do All That? Designing the Lane City Reservoir Relift Pump Station” • Received notice of alternative selection for presentation at the Texas Water 2017 conference April 10 – 13th. Paper Title: “Alternate Project Deliver Risks and Rewards - Lessons Learned From the Development and Construction of the Lane City Reservoir Project.”

2. Work Planned for Next Quarter

Table 2 summarizes work activities planned for the next quarter.

**Table 2
Summary Work Planned for Next Quarter**

Scope Item	Work Planned
Task 1 - Regulatory Considerations	<ul style="list-style-type: none"> • None. Task is complete
Task 2 - Construction	<ul style="list-style-type: none"> • <u>River Outfall</u> <ul style="list-style-type: none"> ○ Begin construction of river outfall pipe. ○ Begin construction of river outfall stilling basin. • <u>Chimney Drain</u> <ul style="list-style-type: none"> ○ Continue building chimney drain. • <u>Wave Wall</u> <ul style="list-style-type: none"> ○ Complete fabrication of approximately 540 wall segments.
Task 3 - Post Construction Documentation and Lessons Learned	<ul style="list-style-type: none"> • Submit report table of contents and list of figures and tables to TWDB for review and comment.
Task 4 - Outreach and Public Communication	<ul style="list-style-type: none"> • Submit abstract to Association of State Dam Safety Officials (ASDSO) national conference in San Antonio.

3. Budget Status

Table 3 presents a summary of budgeted vs. actual for the 3 areas of work. Overall TWDB cost-share reimbursement to date is approximately 62% of grant award.

**Table 3
Summary of Budget and Expenditures**

Item	Budget		Expenditures		TWDB Remaining Contribution
	Total Construction ¹	TWDB Contribution	Construction Paid to Date ²	Total TWDB Contribution To Date ³	
River Outfall	\$3,979,976.00	\$723,430.00	\$1,659,828.00	\$522,016.00	\$201,414.00
Chimney Drain ⁴	\$5,052,170.00	\$1,085,144.00	\$2,358,468.42	\$741,738.32	\$343,405.68
Wave Wall	\$3,848,167.00	\$602,858.00	\$741,157.00	\$233,094.00	\$369,764.00
Total	\$12,880,313.00	\$2,411,432.00	\$4,759,453.42	\$1,496,848.32	\$914,583.68

¹ Total construction budget is based on a construction contract with Phillips & Jordan (PJ) executed on Nov. 19, 2015. Construction budgets are based on contractor's baseline Schedule of Values.

² Total paid by LCRA to PJ for each Item.

³ Includes current reimbursement request

⁴ Contractor's estimated chimney drain cost component of embankment construction inception thru November 30, 2016.

Table 4 presents a breakdown of TWDB contributions this period and inception to date.

**Table 4
TWDB Contribution Details**

Item	Total LCRA Expenditures During Period ¹	TWDB Contribution This Period ²	TWDB Contribution Previous Periods	Total TWDB Contribution To Date ³	TWDB Budget	TWDB Remaining Contribution
River Outfall	\$157,084.28	\$49,403.01	\$472,612.77	\$522,015.78	\$723,430.00	\$201,414.22
Chimney Drain ⁴	\$2,358,468.42	\$741,738.32	\$0.00	\$741,738.32	\$1,085,144.00	\$343,405.68
Wave Wall	\$741,156.99	\$233,093.87	\$0.00	\$233,093.87	\$602,858.00	\$369,764.13
Total	\$3,256,709.69	\$1,024,235.20	\$472,612.77	\$1,496,847.97	\$2,411,432.00	\$914,584.03
¹ Total expenditures are LCRA actual expenditures to contractor during the period.						
² Computed as 31.45% of Total Expenditures. Per Contract Amendment No. 1						
³ Includes current reimbursement request						
⁴ Contractor's estimated chimney drain cost component of embankment construction inception thru November 30, 2016.						

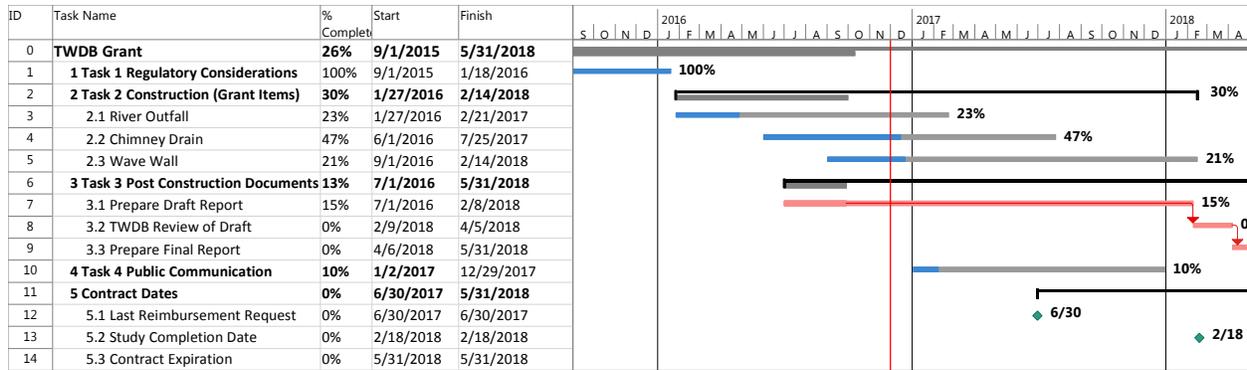
4. Construction Status and Project Schedule

The status of Lane City Reservoir construction as of November 30, 2016 is summarized in Table 5 below. Percentages are for construction completion.

**Table 5
Construction Status**

Component	% Complete	Comments
Overall Project	37 %	Substantial completion for the project is Sept. 8, 2018, based on a Nov. 18, 2015 notice to proceed and a 1020 calendar day construction contract with Phillips & Jordan Inc. This contract includes construction of all 3 components included in the TWDB grant.
River Outfall	23%	Contractor has completed temporary cofferdam in the river stabilized bank for pipe excavation. Materials are on site.
Chimney Drain	47%	Overall embankment and chimney drain construction is approximately 47% complete.
Wave Wall	21%	Contractor has fabricated or delivered an estimated 893 wave wall segments. Wave installation is scheduled to begin mid-2017.

An overview of the project schedule for the construction of the grant components, delivery of the Task 3 construction report, and the Task 4 Public Communication tasks are presented below. Additionally, the schedule reflects the Contract completion dates included in Amendment No. 1 of the grant contract with TWDB.



5. Local Participation

Table 6 summarizes the local expenditures by the general contractor. Local expenditures account for approximately 12% of total expenditures for the construction component of the Lane City Reservoir Project.

**Table 6
Local Participation Status through November 2016**

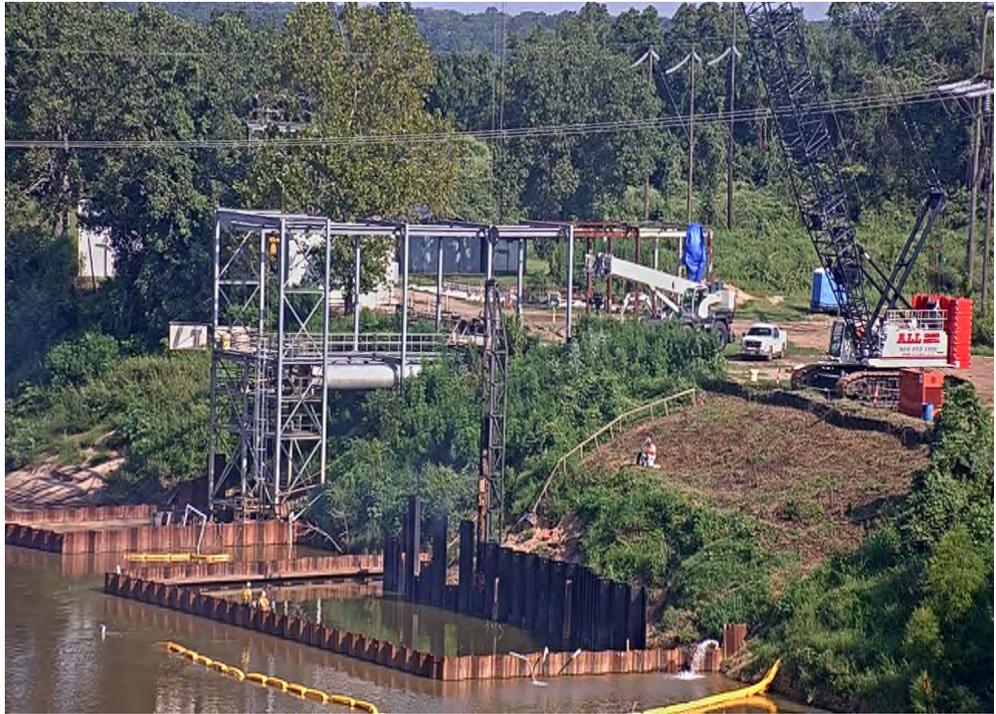
Local Subcontracts	Totals
• Wharton County	\$ 324,530
• Matagorda County	\$ 1,126,855
• Colorado County	\$ 4,137,035
Total Local Subcontracts	\$ 5,588,420
Local Labor (all counties)	\$ 3,076,239
Total Local Expenditures	\$ 8,664,659
Total Construction Expenditures	\$ 68,966,400
Local Participation %	12.6%
% Goal	15%

6. Risks and Concerns

None identified.

7. Photographs

**River
Outfall.
2016.09.16**



**River
Outfall
2016.10.31**



**Chimney
Drain.
2016.09.12**



**Chimney
Drain Cap
with Native
Sand.
2016.11.30**



**Completed
Wave Wall
segments
on site.
2016.10.04**



**Completed
Wave Wall
segment on
site.
2016.10.06**

